REMARKS

The examiner has objected to the drawings because figure 7 is missing. In response, applicants have amended the specification to remove the reference to a figure 7. The reference to a figure 7 is a typographical error. There is no figure 7 in this application.

The examiner has objected to claims 19 through 21 because "In-band" should be "in-band". Applicants have made appropriate corrections to claims 19-21.

35 U.S.C. §103(a)

The examiner has rejected claims 1, 2, 7, 8, 13, 14, and 19- 21 under 35 U.S.C. §103(a) as being unpatentable over Adams (US006378130B1) in view of Gotwald (US005987518A) and Tsutsui et al. (US 20020046408A1). The examiner has further rejected claims 3, 9, 15, 22, and 23 under 35 U.S.C. §103(a) as being unpatentable over Adams (US006378130B1) in view of Gotwald (US005987518A) and Tsutsui et al. (US 20020046408A1) and further in view of Banker et al. (US005497187A).

For the reasons given below, even if the cited references could be combined as the examiner suggests, the combination of the references does not result in the claimed combinations. For these reasons, applicants contend that the claimed subject matter is not obvious from the cited references.

THE CITED REFERENCES

Adams (US006378130B1)

The Adams patent relates to a media server for distributing media assets (e.g., video, Web browsing, etc.) from a headend to a plurality of subscriber terminals responsive to a request from each of such terminals. Adams shows a subscriber terminal (figure 3) which has two tuners for receiving signals: an in band tuner 41 and an out of band tuner 42. The in-band tuner 41 receives both analog and digital video MPEG signals. The out of band tuner 42 receives only downstream digital IP datagram messages from the headend. (Adams column 5, lines 16-18). Out-of-band transmitter 43 transmits upstream IP datagram messages to the headend. (column 5, lines 40-45). Thus, Adams describes a conventional system with one-way in-band video and two-way out of band data.

Gotwald (US005987518A)

Gotwald shows a system for communicating Internet protocol (IP) data on the in-band MPEG channels. To transport IP data over an in-band MPEG channel, Gotwald reformats the IP protocol to fit within the MPEG-2 transport protocol.

Tsutsui et al. (US 20020046408A1)

Tsutsui et al. show a cable television system including a headend, a processing terminal, and a receiver. The receiver is described as being a TV receiver, VCR, video player, telephone

set, facsimile, or personal computer. The processing terminal is a settop box. (Paragraphs 89-94). The processing terminal has the ability to control the receiver, i.e. turn it on and off, change the video channel, change the audio channel, control the level of volume and set the time. (Paragraph 89). Tsutsui et al. is difficult to interpret because the reference numbers in the text of the specification are absent from the drawings. However, it seems clear that the processing terminal under control of the CATV central station (paragraph 88) is controlling the TV receiver to change the video channel (paragraph 89).

The examiner states that

> "Tsutsui et al. discloses [sic] at CATV system where the subscriber station or settop terminal are able to send an operational request to the CATV central station or headend, where the operational request can represent changing the video channel." (Office action July 23, 2004, page 5, lines 1-3)

Contrary to the examiner's assertion Tsutsui et al. do not send a request from the subscriber terminal to the CATV central station to represent changing the video channel at the TV receiver.

Banker et al. (US005497187A).

Banker et al. show a one-way addressable CATV communication system using both in-band frequencies (on the vertical blanking interval of an analog TV signal) and out of band frequencies to transmit an addressable data stream. (column 3, lines 49-59 and column 1, lines 26-33). Banker et al. is an addressable cable TV system that assembles addressable messages in a queue to be transmitted as an addressable data stream.

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"The out-of-band carrier, for example, is chosen, for example, to be near the FM radio channel band, such as at 108.2 MHz, and the addressable data is, for example, frequency shift key modulated on the out-of-band carrier. The data typically comprises an address field and a data or message field. If the address matches the address of the apparatus to which it is directed, then, the data field is accepted by the apparatus." (column 1, lines 29-37)

Banker et al. further suggests (but does not show), allocating transmissions between in-band and out of band channels where messages may be transmitted on out of band channels when the "queue for outgoing in-band data transactions is so great that out-of-band data transmission is a more expedient mode of transmission. (column 8, line 8-10).

COMBINING THE REFERENCES

Claims 1-3, 7-9, 13-15, 19-23

Adams shows a communication system with analog video, MPEG video, and two-way IP data. Gotwald shows that the downstream IP data may be encapsulated in the downstream MPEG data stream. The combination of Adams and Gotwald is described as the prior art in applicants' background of the invention section. Also described by applicants is the following problem of the prior art not addressed in either Adams or Gotwald.

"However, the viewer may be receiving IP over MPEG on one 6 MHz video channel and desire to watch a digital TV program that is multiplexed on another 6 MHz video channel. Therefore, two tuners and two digital MPEG decoders are needed if the subscriber is to be able to simultaneously receive both IP over MPEG Internet data on any digital video channel and view a digital video program from another MPEG encoded 6 MHz video channel. It would be desirable to utilize the downstream data carrying capacity of the in-band CATV spectrum to simultaneously receive both IP over MPEG Internet data and MPEG encoded digital video using a single tuner/digital MPEG decoder in the CATV settop box." (applicants' specification page 3)

The examiner asserts that combining Tsutsui et al. with Adams and Gotwald would result in the claimed combinations of claims 1, 2, 7, 8, and 13, 14 and 19 through 21. Assume for the purposes of analysis below that Tsutsui et al. showed sending channel change information to the CATV headend (which they does not). Even then, the combination of Adams, Gotwald and Tsutsui et al. would not result in the claimed combinations of claims 1, 2, 7, 8, 13, 14 and 19-21.

That is, if Tsutsui et al. (or another reference showing upstream channel change information) were combined with the prior art system of Adams and Gotwald the result would be a two way IP over MPEG distribution system that also sends channel change information from the subscriber terminal to the CATV headend. But there is nothing in the combination of Adams, Gotwald and Tsutsui et al. (or other reference as described above) that indicates what the CATV headend is supposed to do with that channel change information. Claims 1 and 7 (which was amended for clarity) and claim 13 are indicative of how the "channel change" information is used to "select" a new "downstream" channel.

In amended claim 7 at the headend, "channel change" information is used to "select" a new "downstream" channel.

> "receiving a channel resource request from said settop at said headend, said channel resource request representing a video channel change at said settop box;
>
> selecting at said headend, responsive to said channel resource request a selected communication channel for downstream IP packet data from said headend to said settop box; and
>
> sending a channel resource confirmation message from said headend to said settop box, said channel resource confirmation message identifying said selected communication channel to said settop box."

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In claim 13 at the settop, "channel change" information is used to "select" a new "downstream" channel:

> sending said channel resource request from said settop, said channel resource request representing a video channel change at said settop box;
>
> receiving said channel resource confirmation message identifying said selected communication channel to said settop box; and
>
> selecting said selected communication channel at said settop box for receiving said downstream IP packet data from said headend."

And in amended claim 1 for the system of headend and settop, "channel change" information is used to "select" a new "downstream" channel:

> "sending a channel resource request from said settop to said headend, said channel resource request representing a video channel change at said settop box;
>
> selecting at said headend, responsive to said channel resource request, a selected communication channel for downstream IP packet data from said headend to said settop box;
>
> sending a channel resource confirmation message from said headend to said settop box, said channel resource confirmation message identifying said selected communication channel to said settop box, and
>
> selecting said selected communication channel at said settop box for receiving downstream IP packet data from said headend."

Thus, the combination of Adams, Gotwald and Tsutsui et al. does not result in the claimed process steps that allow tracking between the video program channel changes and the downstream IP data channel. For the above reasons, claims 1-3, 7-9, 13-15, 19-23 are not obvious from the combination of Adams, Gotwald and Tsutsui et al.

Claims 4-6, 10-12 and 16-18

The examiner adds the disclosure of Banker et al. to the disclosures of Adams, Gotwald and Tsutsui et al. to reject the claimed combinations. However,

1) It is not proper to combine these cited references and

2) Even if combined, the cited references do not result in the claimed combinations.

Even assuming that Banker et al. showed diverting data traffic from a busy channel to an available channel, and even assuming that Tsutsui et al. showed sending channel change information from a settop to a headend, the claimed combinations are not obvious from the references themselves. The examiner is using impermissible hindsight.

The examiner, using applicant's disclosure as a guide, found parts of the claimed subject matter in the prior art. However, it is not necessarily proper to combine references found in this manner. The search results, found by using applicant's claims as a roadmap, must thereafter be viewed prospectively. That is, aside from the hindsight provided by applicant's own disclosure, there must be some motivation in the references themselves to suggest their combination.

Laying the patents of Adams, Gotwald, Tsutsui et al. and Banker et al side by side on a table and viewing them prospectively, does not fairly suggest the claimed combinations resulting in channel tracking as claimed. It is only applicants' own disclosure that allows the

examiner to pick and choose among the elements in the prior art to arrive at the claimed combinations.

Finally, even if combined, there is nothing in the combination of Adams, Gotwald, Tsutsui et al. and Banker et al. that indicates what the CATV headend is supposed to do with channel change information and how it is to relate channel change information to the selection of an in-band or out of band communication channel. Claims 4, 10 and 16 relate to the system, headend and settop respectively.

System claim 4 is representative of this group of claims, using "channel change" information to "select" a new in-band "downstream" channel, "if said second video channel has an available communication channel", and to select "an out-of-band communication channel... if said second video channel does not have an available communication channel."

"sending a channel resource request from said settop to said headend, said channel resource request representing a channel change from a multiplexed digital video channel in said first video channel to a multiplexed digital video channel in said second video channel at said settop box;

determining whether said second video channel has an available communication channel for downstream IP packet data comprising an available packet ID for carrying IP over MPEG data packets in said second video channel;

selecting at said headend said available packet ID for downstream IP packet data from said headend to said settop box as a selected communication channel if said second video channel has an available communication channel for downstream IP packet data in said second video channel, and selecting at said headend an out-of-band communication channel in said out-of-band region of said digital video communication system for downstream IP packet data from said headend to said settop box as said selected communication channel if said second video channel does not have an available communication channel for downstream IP packet data in said second video channel;

sending a channel resource confirmation message from said headend to said settop box, said channel resource confirmation message identifying said selected communication channel to said settop box; and

selecting said selected communication channel at said settop box for receiving downstream IP packet data from said headend."

Thus, the combination of Adams, Gotwald, Tsutsui et al. and Banker et al. does not result in the above claimed process steps that allow tracking between the video program channel changes (from a first to second video channel) and the downstream IP data channel even when there is no available communication channel on the "second video channel".

For the above two reasons, claims 4-6, 10-12 and 16-18 are not obvious from the combination of Adams, Gotwald, Tsutsui et al. and Banker et al.

CONCLUSION

Applicant has made an earnest effort to present claims patentably distinct from the references, and point out how the specific language of the claims patentably distinguishes such references.

In light of the foregoing reasons, it is requested that the examiner withdraw the rejections of claims under 35 U.S.C. §103(a), allow claims 1-23 as amended and pass the present application to issue.

Respectfully submitted,
by

_____ DATED: 22 Nov 2004

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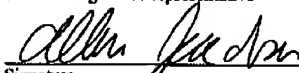
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